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CHOLERA MORBUS,

TRANSLATED FROM THE GERMAN,

BY

GEORGE COX, M.D.

ONE OF THE

HONORARY CONSULTING PHYSICIANS TO THE DISPENSARY,
AT NOTTINGHAM,

&c. &c.;

TOGETHER WITH

THE TREATMENT OF THE CHOLERA MORBUS

BY

DR. RUSSELL AND DR. BARRY.

Nisi utile est, quod fecimus, stulta est gloria.

NOTTINGHAM:

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1832.

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TO

DR. BARRY,

THE FOLLOWING TREATISE

TRANSLATED FROM THE GERMAN,

IS MOST RESPECTFULLY INSCRIBED

BY THE AUTHOR.

PREFACE.

If the sentences which compose the annexed little work do not flow or hang together in that "glib and oily manner" which might be expected of an English composition, it is because a *strict*, *correct*, and *literal* translation was intended to be given, which could not be accomplished in any other way than that which I have adopted; for were I to expatiate on the expressions of our author (Dr. Jencken), I should often, doubtless, unavoidably "make such a sinner of my judgment as to credit my own error," and consequently mistake and mistate his actual meaning. Another reason why the sentences appear somewhat abrupt, is the obstruseness of the work itself, which has caused me to leave out many parts which were either not intelligible or else not tenable, to wit, such expressions and nice distinctions as these, "*telluric*, *cosmetic*, and *solar developments of elementary powers, and the like*," which pervade the whole work. His own words are übermass plastich tellurisher elementarentwicklung. Heftiges Einstreben der plastich tellurishen Expansionskraft, gegen des organish forttreibende Bildungstreben. Speaking of the cholera poison, he says,—Die system, welche das cholera—Gift vorrüglich afficirt, oder krankhaft steigert, müssen die tellurisch hingewandten, gagen die solarischen seyn. These and similar expressions the learned reader is more likely to understand than I am. But unfortu-

nately the difficulty of understanding them is by no means so great as proving them to be true when understood. I therefore thought it advisable to omit these fanciful doctrines and expressions. At the same time I must do the author the justice to observe, that as far as I am able to understand his work, it is as much distinguished by ingenuity and talent, as by abstruseness and novelty. Consequently I have no hesitation in recommending the original to the perusal and *study* of the scientific enquirer. Having thus briefly apologized for the style of the work, I shall leave the gentle reader to form his own opinion respecting the matter of it. At the same time I beg to assure him, in conclusion, that should the following lines contribute to his edification, or excite those reflections which may lead to scientific and happy results, my object will be fully attained, and the pains which I have taken, more than compensated.

GENERAL REMARKS.

THE prevalence and awful nature of the Cholera Morbus has justly attracted universal attention to the mode of treatment adopted by the Faculty. Numerous are the publications which have appeared, stating cases, pointing out remedies, giving reports, and other useful information; still the Cholera continues to prevail, and kills with scarcely any exceptionn early one half of those whom it attacks. Can no one, then, discover an efficacious mode of treatment, is the plaintive question put by those who are threatened with danger. Hitherto every method of treatment has been principally in imitation of former methods, and as yet no one has ventured from them to deduce a theory which is capable of universal application. And yet he only as a Physician is capable of fulfilling the duties of his calling, who, by due reflection upon facts relating to disease, and a comprehensive knowledge of nature, can adduce a leading idea which shall admit of application to every natural phenomenon in disease, for when

in any malady are the circumstances and the disease precisely the same? Do not idiosyneracy, season of year, previous habits, &c. modify the form of the disease in every individual? How then can single facts, imitation, or empiricism be applied to the healing art? Can it be expected that *one* remedy can act in the same way in every individual, in every season of the year, and in every condition of the body? Mere undigested facts are like colours which as yet are not formed into an image, or stones which have not yet been piled into a building.

Blind imitation will always be a hindrance to every science, and particularly to that of medicine, for it is as it were a reservoir without a spring, whose waters become stagnant—the offspring of sloth and inactivity—mere mechanism, a borrowed power—it restrains energy—its product is always the same, and its character in no wise adapted to an active profession like that of medicine. Mere isolated facts, obtained by accident, in him who has not acquired a general knowledge of nature and the sciences, and is not in the habit of reflecting upon those facts which reading and experience may afford him, will necessarily lead to an ill-founded, false, and vacillating mode of treatment. An idea which is foreign to us, so far from assisting us, if it be not digested into our system, will prove

a hindrance to us in our practice; for a strange idea is necessarily partial and momentary, whilst that which is our own flows richly, and at all times spontaneously, as a vital and ever-acting principle, and becomes as it were, a part of life itself. Still, however, the ideas of others, when duly reflected upon, are food to our own thoughts, even as discoveries of others lead to discoveries of our own; they become the materials for building a comprehensive whole. Proficiency in all sciences can only be attained by increasing the number of our ideas, derived from facts, and in order to acquire a successful mode of treatment in that of medicine, surely reason and judgment, the inner faculties of the soul, are at least of equal value with all external media of observation. Ideas acquired in this manner become the light of reason. It is in this way alone, that true mutual understanding on the important question becomes possible. Thought speaks to thought. What is practical receives through it a proper meaning for facts which are in themselves but dead letters by thought, reflection, and an intelligent elucidation, become the wisdom of the creation—of nature—of life, and all its mysterious laws.

CHARACTER OF THE CHOLERA.

The symptoms which usually occur in the first stage of Cholera, are derangement of the biliary system, oppression in the epigastrium, exhaustion, and want of appetite. Sometimes, however, these symptoms are not experienced, and the more urgent symptoms occur suddenly in the following order: dizziness, weakness, alternate shiverings and heat, anxiety, spasms, beginning in the toes and gradually extending upwards, partial convulsions, pains in the extremities, fixed pain in the calf of the leg and the head, general feeling of indisposition, vomiting, diarrhœa, accompanied with violent colic pains and unquenchable thirst for cold fluids, the abdomen is drawn together, skin wrinkled, the croaking in the bowels is unceasing, the trembling pulse sinks more and more, the extremities become cold, the tongue is cold to the touch, the limbs have a blue colour, the functions of the skin and bladder from the beginning are suppressed. The eyes, which are half closed and frequently convulsed, are found filled with blood. No sooner has dizziness affected the patient, than his consciousness is rendered weak, dilirium sometimes occurs, but never so violently

as in the plague, a hoarse complaining voice (vox cholerica) is heard to proceed from the anxious breast, accompanied with a violent and continued sensation of burning, as well as pressure in the epigastrium. The burning sensation in various parts of the abdomen is attended in some patients with colic pains. At length the body quickly collapses, and an immoderate evacuation of a watery blackish fluid takes place both upwards and downwards. The healthiest individuals, when attacked by cholera, are soon reduced to mere skeletons. The whole body becomes affected with convulsions. The last part which is convulsed, is usually the neck. Sobbing immediately precedes death, and when this occurs the stroke of the heart and pulse are scarcely to be felt. Sometimes convulsion of muscles are observed to continue for a considerable time after the apparent death of the individual, as if excited by galvanism. The only thing discoverable by the senses, that can lead us to the supposition of the existence of miasmatical change in the atmosphere, is a peculiar acid smell in the atmosphere of the patient, and the accumulation of an offensive vapour, which collects around the glass of the closed windows.

The above are the most important symptoms: their succession however frequently varies in dif-

ferent individuals. Sometimes the only symptoms which occur are, dry colic, vomiting and syncope; at other times the colic is absent, and death takes place after the occurrence of extreme weakness, attended with convulsion and coldness of the body. The more violent symptoms of the disease are frequently preceded by sudden exhaustion, trembling of the hand, and convulsion. The rapidity with which death takes place depends upon the degree of cold which extends itself towards the heart, and the sinking of the vital powers, whereby the body becomes collapsed, and assumes a blue colour. If the powers of life are sufficiently energetic to enable the system gradually to overcome the disease, we shall have a return of pulse, and the coldness of the extremities will neither extend so high as in the former case, nor be so intense in degree; anxiety and colic pains diminish; the functions of the skin and kidneys are restored; vomiting and stool become less frequent, the latter assume a bilious aspect. Diarrhœa when it is attended with an evacuation of a clayey mass, intermingled with flakes, is critical, convulsions cease, consciousness returns with cheerfulness of spirits, and renewed energy pervades the whole system. When a perfect cure does not take place, it frequently happens that the exhausting diarrhœa

remains, or else the disease is followed by a typhus fever and tedious convalsecence.

At first the disease lasted from 17 to 24 hours, and even several days; but now it cuts off its victims in a few hours, attacks suddenly, particularly those who reside in crowded ill-ventilated rooms, and kills the patient as with the power of lightning.

Soon after death the abdomen swells, being filled with gas, but decomposition does not take place speedily. The body assumes a blue aspect, particularly on the lips and genitals.

On examining the body after death we observe every-where congestions of venous blood, to wit, in the heart, the brain, the left ventricle, the aorta and the arteries. The lungs are collapsed, the muscles, are soft, inflamed spots occur in the alimentary canal, the spleen is tender, the liver is increased in size, a tendency to disease seems apparent in the heart and and alimentary canal, where polypous formations frequently present themselves.

As in epidemics in general, so in the cholera, the lower classes are principally attacked. Lax

constitutions, those in whom there is a tendency to venous congestions, women, and even pregnant women, are the most likely to take the disease; children and old people less; both being defended by a want of susceptibility, the former arising from defective development of organization, the latter from the fading condition of it. It has hitherto been impossible to say how long the disease raged in any place; so much however we know, that its first attack was usually very violent.

The physicians in India have spoken of it only as prevailing epidemically in that country. It made its appearance there in damp seasons, and especially in low situations; it raged in particular districts, attacked in the evening, or in the night when the vapours of the earth have most power; also there it went from East to West, North to South, and from South to North, yet it only occasionally contemporaneously assumed a contagious character. In respect of the Persian and Russian cholera, it was observed particularly at Astrachan, that the conditions most favourable for producing the disease, were low situations, autumnal seasons, and various electrical phenomena in the atmosphere. It took its course along rivers and canals up the Volga; it slightly attacked the inhabitants of deep vallies, but stopped to commit

dreadful ravages in low situations; assuming in them a contagious character it extended itself from thence to elevated places, and raged during the cold seasons, as happened at Orenburgh and Moscow, and following the course of high roads was evidently propagated by diseased individuals. This happens also in all other epidemics, when they are at their height, and have continued long. The Russian cholera spread itself towards the North, up the Volga, in two directions; towards the West, to Moscow and to Kiew, then further into Poland, and at present Riga, Mitau, and several Baltic ports are attacked; even to Archangel the disease has extended itself: it rages in Dantzic and proceeds from Brody and Galicia to Vienna. Its contagious character gives to its course from East to West a more varying direction. It is said to have been brought to Riga by the barks, and in the same way to have extended itself to all the Russian ports. Its direction, however, towards the West continues predominant, and this favours the idea long since entertained, of the atmosphere possessing a generally epidemic tendency from East to West.

FACTS CONNECTED WITH THE CHOLERA.

The symptoms of the cholera, as known in Europe, are exhaustion, with anxiety, pains of the

muscles, cold and sinking pulse, violent colic, accompanied with vomiting and diarrhœa, and ejection of an unusual mass of fluid matter, whilst the functions of the skin and kidneys are interrupted; spasms beginning at the extremities, collapse, and blue aspect of the body. In the East Indian cholera the ejected mass was less in quantity, and there was more tendency to tetanic than ordinary convulsions; its progress was not so rapid, and on the whole it was less contagious. The character of the disease appeared to be more inflammatory. In Nishny the cattle took the cholera contemporaneously with the human race, and died. An ulcerous disease also has recently attacked the horses and cows in Siberia. In Calcutta disease was likewise found to exist among the cattle. As belonging to the effect of the Asiatic miasmata of the air may here be mentioned a disease called Siberian wound (Tnswa), which, although unimportant at first, appears upon the uncovered parts of the body, and is soon followed by mortification of the whole limb, and death itself, unless the disease be cured in time by excision, reaching to the healthy part. It is more probable that this disease is generated by separate miasmatic expansive operating particles of air, than by an insect. In the plague animals often suffered as well as men; dogs and mules were, in the epidemic mentioned by

Homer, attacked before the disease developed itself in the human frame, and in other places birds and insects fell dead to the earth. Fish died in the rivers, as now happens in the Dwina, whilst in that place, this year, vegetation flourishes with an unusual degree of luxuriance—a proof of the plastic vegetative nature of the poison which engenders the disease. There was in the atmosphere an influence tending to produce the disease, which inclined from East to West. In the East there occurs a greater mass of continent, more stiffness in the conformation of the earth, and at the same time, more tendency to expansion of elements, occasioned particularly by the putrefaction of the vegetable kingdom, and by the predominancy of vegetation generally. The diurnal revolution of the earth occasions an atmospherical current from East to West, a direction which falling stars are observed to take. However, the miasmatic development considerably co-operates in producing this effect. Apollo strikes with his arrow, and heals with his beams. The sun excites the earth's elements to development of warmth, and from this arises the principle of expansion in the element, and by this decomposition is caused. But the light of the sun has also vivifying and oxydizing properties, and warmth in its gradual progress

operates to the drying of the earth, and by the re-production of fresh vegetation.

Of late years electrical appearances on the earth have very much increased. Not only have comets been seen annually at a greater or smaller distance, and they produce an electrically heating influence upon our globe; but also many volcanic eruptions in Asia and America have been experienced. Shocks of earthquakes also have taken place of late years along the course of the Rhine, in England, and in Russia. In Southern countries, also the Aurora Borealis has been unusually frequent and resplendent; but what is still more striking, are the floods which have alarmed the people who lived on the coast of seas and banks of rivers. It is true they were connected with violent storms towards the land, yet on the Dutch and Holstein coast at least, there was not always in every instance a connection between a heavy storm and flood. We have frequently found gas to be emitted from seas and mountains, and sudden rise and fall of the waters, as in Lubeck, in 1821, without being attended with wind. But the direction of winds, no doubt, depends as much upon development of powers naturally belonging to our globe, as upon the presence of cold and warmth. De Luc describes

the bottom of the sea as being full of cavities, produced by subterraneous fires, and this doctrine is rendered probable by the nearness of volcanoes to the sea coast, as we observe to be the case in that of Etna, Vesuvius, by the fire pits of Japan, and also by the appearance of water spouts. The meeting of electrical phenomena, proceeding from the sea, and clouds, may also be mentioned in this place. Doubtles also, electric fluids of the earth had their influence in producing inundations, as is shewn by the unusual rise and fall of the barometer, and the altered movement of the pendulum. Who will dare to assert, that effects of inundation caused by the power of gases and electrical explosions, do not essentially influence the condition of the atmosphere? We regard the earth as being in a continual state of development, which we infer to be the case from its central position in the planetary system, from the great preponderance of water over land, and even from the imperfect state of that land itself; and if so, then the human race must continually be subject to new influences and developments. Even the natural warmth of our planet must increase with its growth, and thus greater solidity must be produced: hence the human race as well as animals in general must appropriate to themselves the newly developed elementary productions, which cannot take place

without producing a re-action in the system. If even exanthemata produce considerable disease, though they be themselves but the effect of atmospheric air in its ordinary state, surely, then, the re-action of nature in appropriating to itself the newly developed principle in the organization of the human frame, must produce disease still more violent.

The similarity which cholera bears to many former and present epidemics, is very striking, when we compare it with the black death, the English sweating sickness, which also extended itself through Germany. In them the symptoms were venous congestion, anxiety, syncope, thirst, burning sensation in the abdomen, immoderate secretion of fluid by the skin—and this occurs in the cholera through the mucus membrane of the bowels. Promotion of sweat at that time also was the principal indication of cure. In the Hungarian disease, " the black death," the symptoms were heart-burn, violent colic, head-ache, and exhaustion. Dysentery followed the above symptoms, and a bilious purging was critical. Aromatics and sudorifics were the remedies.

The Yellow Fever, as described by Matthei, Brunel, Reider, and others, bears obvious resem-

blance to the cholera. In it the symptoms were black vomiting, venous blood unusually thin, pain in the muscles, convulsions, and total exhaustion. Vegetable and animal decompositions are in the yellow fever also, by assisting the plastic operative tendency of the elements, pre-disposing causes of the disease. Not less allied to the cholera, also is the Egyptian dysentery, which Frank regards as a nervous fever of the intestines. We may further notice, that the cholera raged on the coasts of Syria and Egypt, also in the West Indies, South and North America, though in these countries the symptoms, according to the American physicians, were much milder. In Egypt and Syria it commenced with black vomiting, bleeding of the nose, &c. and killed in 24 hours. We are also inclined to consider, as related to the cholera, all scorbutic affections, as they occur in long sea voyages in low and boggy situations, as for instance, the blue pox and petechial fever, particularly that which raged in the 16th century. Indeed we discover in all pestilential diseases something like the cholera, to wit, colic, total exhaustion, and paralysis. That dampness and corruption of plants tend to produce disease is obvious, for fungi, which grow in shady, concealed, and damp places, become poisonous, although they were not so before, and produce symptoms very much re-

sembling those of cholera. According to Mr. Desmoulin, foul water of vegetables when squirted into the veins of dogs, produced symptoms like those which occur in yellow fever. The bite of the serpent and mad dog also indisputably produce symptoms resembling cholera, to wit, venous congestion and nervous inflammatory contractions. The prussic acid more than any other poison, produces symptoms like those of cholera, namely, a softening of the spleen, swelling of the veins, suppressed secretion of kidneys, and death, the latter taking place under oppression, convulsion, and sudden paralysis of the whole system. Ammonia is the remedy.

The mineral poisons are less apt to produce symptoms resembling cholera than the acria; the toad-stool, especially, produces vomiting, excitement, and total exhaustion of the vital powers, sinking of the pulse, convulsions, and paralysis. Preparations of lead also produce a kind of chronic cholera. Narcotics cause less tendency to congestion and laxity, than to paralysis. The acria, however, possess an astringent principle, which is absent in narcotics. The fact that muscles, lobsters, dolphin flesh, &c. have sometimes produced symptoms resembling cholera, is to be attributed to the existence of prussic acid, which is

present in them, but not in all animal substances, and this, even during life, is often thrown off by the animal in the form of animal effluvia (when excited by rage.) The efficacy of ammonia in curing the effects of animal poisons, bites of serpents, and stings of insects, shews that these are intimately related to prussic acid. Theserpent Pythion (πυθω) produced after Deucalion's flood, refers, undoubtedly, to miasmatic diseases and exhalations producing death. The sun (Apollo), killed the snake by equalising the elementary powers of the earth—by drying up on the one hand, and producing fresh vegetation on the other. The Tripod of Pythonissa was covered with the skin of a snake: in this habit the priestess arose from amidst the intoxicating vapours (like the sun) with truth, bringing light, and banishing death and darkness. Also, the Hydra (ὑδωρ) was the mythological symbol of contagion, the offspring of Echidna (εχις) and Typhon (τιφω), indicating thereby, some slow and creeping thing engendered by the mud, which, armed with the power of fire, kills like a deadly fever, and with fire only could be controlled.

English physicians date the origin of the cholera in India only from 1817. Others, however, date it one hundred years earlier. In China it

was believed to have existed from the earliest times, unless the plague was mistaken for the cholera. The celebrated Avicenna also speaks of contagious colic; and it really appears improbable that a disease like the cholera, so easily produced by miasmatic influence, summer heat, and the growing development of the elementary powers of the earth, should not in all periods of the world have prevailed, as it is a disease both epidemic and contagious in the highest degree. We are already in possession of a number of treatises on the cholera—a disease of our times, whose seed is pregnant with fatality. Most of them only give accumulated observations, history of the disease, and remedies chosen from symptomatic indications, or obtained by mere hearsay, or on authority of facts recorded in other works. Even when an original idea is perceived in these pamphlets, it bears a gross and generally chemical character. In English and German periodicals, medical and political, so multifarious are the statements in them respecting the cholera, that a practical summary of the whole would be an excellent and useful employment for a young physician.

Chisholm, Annesley, Jameson, Darling, Johnson, Wallace, Curtis, Searle, and many others, have related much that is appropriate respect-

ing cholera. What has appeared in Russia, giving information respecting the nature and treatment of cholera, may be met with in Lichtenstadt's work, supported with excellent observations. A still more popular work, however, is that of Dr. Pohl. Dr. Marcus' idea that the cholera is produced by a nervous disease of the heart, is, at all events, valuable as an ingenious one; it rises above the mere attention to facts, and is capable of becoming a leading principle in our treatment. It is, we must add, true, that the heart, the centre of physical life, will be affected by every congestion; and every interference with its own peculiar function will, however indirectly produced, cause it to experience a shock before the original perepheric disturbance is manifest to the observer. To seek for a cause of cholera in an affection of the solar plexus or sympathetic nerve, leads to a less profitable result, since to oppose this hydra successfully, it is necessary to look deeper into that anti-organic influence of elementary power, by which the disease no doubt is caused.

The work of Dr. Jähnichen is richer in its conception, and full of important and self-acquired experience. I am only sorry that it is written in such polemic language, which by personality and

trifling reflections upon every-day occurrences, renders the genuineness of his zeal for the higher cause, which is now so pre-eminently important, open to suspicion. The sphere of the learned and more intellectual man—of the physician especially, who in life and nature comes continually in contact with the everlasting laws of the creation, who moves in holy approximation to the highest revelation of divine wisdom—the sphere of the philosopher is the highest in human society, as is shewn not only by the laws of nature itself, but also by the experience of the most enlightened portions of the world. Do not dignity and propriety then become these sphere? The personal misunderstandings which the occurrences of life and transactions of men introduce, should be discussed privately. They belong not to the region of intellectual research. Difference in viewing things is that which awakens life and promotes mutual edification. It is true that it has become common or fashionable in German periodicals, particularly amongst empirics, to oppose philosophical writers with contempt and personal insults; but this conduct is owing, in a great measure, to the indifference with which the direction of the department of criticism is generally entrusted; consequently it frequently happens that these men are mere tyros in learning, and not re-

ally learned men. It sometimes, however, happens, that even learned and superior men have stooped to indulge their rage in quarrels upon trifling occasions; but such forgetfulness of their own dignity has of late quickly vanished: may then every one who is really devoted to the life of science, endeavour by a nobler deportment to excite due esteem for the mental sphere, even in quarters where the discrimination between the geniune and spurious, has been rendered difficult to an intellect clouded by prejudice, education, and the powerful influence of physical causes. With respect to the non-contagious nature of cholera, I agree, in a great measure, with the opinion of Dr. Jähnichen. I must, however, observe, that the lungs and skin are too much allied to respiration in their functions, for us to believe that an aerial poison is not receivable by both organs. That they are intimately allied is obvious, by the collapsed state of the skin and lungs, which is observed to take place immediately after the cause of the disease has began to act. Contagion and miasma differ, according to the ingenious Dr. Kieser (in his system der Medicin): herein that epidemic and endemic fevers are species of diseases engendered from without, whilst contagious diseases are an organization formed directly in the human frame itself, and capable in its highest

development of propagating infection from the body. Every epidemic affection derives its property of becoming contagious from the principle of life. In all diseases, in epidemics especially, the rise and fall of the vital powers are particularly to be regarded, in order to ascertain the period at which contagion acts most violently, and to direct the treatment. How advantageous at the bed-side of the —sickhow edifinyg and consoling it is to the physician who continually observes something new in disease, and who is called upon to give relief by his own invention—how delightful to such are the ideas of intellectual men, who are gifted with power of philosophical research! The mere accumulation of dead facts causes confusion, and destroys the uniformity and consistency of thought. What have all the disputes about contagion done? a thousand facts support it, and a thousand contradict it. How little have the numerous and daily accumulated observations respecting the weather hitherto proved? Is there a single positive remedy? nay, is there one disease that ever returns in the same unaltered form? Facts are only instructive as leading to, or confirming an idea.—The student of every science ought to remember the αριστον μετρον in his historical researches necessarily connected with it.

The facts recorded in compilations are principally gathered from other works, and are not even stored up in the memory; and yet it is then only that we can turn them to account, when what is practical has become entirely our own. The observation of facts will enable us only to gather a few of the leading principles of each science—we must build upon them in theory. He who is practically acquainted with a subject, and has read much concerning it, and has weighed it in his own mind, may venture to form to himself and unfold to others a leading idea. Can it, therefore, be a reproach to a scientific man to say, that this or that pamphlet is not even known to him? And absolutely necessary as may be the knowledge of facts towards furnishing a genuine material for thought, still excessive reading and re-reading destroy the natural flow of thought, and substitute the mechanical operations of memory for the enlivening and fruitful energy of judgment.

Dr. Jähnichan's idea of self-production of cholera in those places where (so to speak) a hot-bed for the disease is formed by a constant exhalation and expiration of a number of patients, is exceedingly well carried through. The author says rightly, the contagious and epidemic diseases are never so distinct from each other as they are re-

presented to be by supposed scientific demonstration. As the one or the other predominates, so is the name given to it. By care and attention to the lower class, by strict regard to dry, airy, light abodes, by better food and cleanliness, by avoiding the crowding together of people in one room, more is gained than by quarantine, which, like all hospitals, causes the collection of many people together, and must quickly raise the atmosphere already inclined towards a sickly inflammatory condition, to a state which will quickly engender the disease in its most virulent character. Hospitals, indeed, should generally consist of many small dwellings; for in all hospitals there is an inclination, notwithstanding all that can be done, towards a confluence of foul air, and in this state, the virus being doubled, the effects are also doubled. The free acid in the blood, whether it be produced by the blood itself, or the gastric juice, is a proof of tendency to separation of deleterious principles, on the same principle as the separation of uric acid in the urine. But this sickness producing fermentation, from which the acid arises, must be caused by an external agent. Is it not therefore, better to direct our full attention to this external agent as the primary cause, rather than to the secondary or temary products of its operation? Yet I am convinced, that the treat-

ment adopted in that idea to counteract the acid and its formation, will yield happier results than all the former vaccilating modes of treatment, founded merely upon facts. Indeed, Diedier, in the plague of Marseilles, in 1721, spoke of an acidity in the fluids as a consequence of the pestilential fever. The formation of polyhi, is, indeed, in general, the essence of disease in form of substance, which from its first existence, destroys organization. The obstruction to the functions of life manifested at first by impeded circulation in the capillaries, and the transfer of this obstruction from primarily affected organs to every part of the body, is, no doubt, manifest in most diseases—is marked in every inflammatory affection of an organ, and in every partially spasmodic attack, as also in every chronic disease, by the active tendency to abnornal productions. The immoderate separation or deposition of lymph, I hold to be similar to that which we see in pyrosis. The unassimilable mass in the blood makes the excretions more urgent and necessary, and overburdens every organ destined to receive it, hitherto unaffected, with laborious oppression, and this in a degree excessive to the few, in proportion to the many that had spasmodically closed themselves. Even those vessels which are still performing their functions, at last grow weak and effect only an incomplete separa-

tion or secretion; hence the black vomit, by which the cholera is made to resemble the yellow fever. Undoubtedly the quickly emaciated condition of the cholera patient was a reason that putrefaction after death proceeded slower than after the yellow fever; but this may also be accounted for by the fact, that the disease prevailed at Moscow and Orenburgh during the cold season.

According to Dr. Jameson (report on the epidemic cholera), the cholera in Bengal was precisely similar to the present Persic European cholera. The symptoms were vomiting of a pale co loured fluid, unquenchable thirst, anxiety, with a peculiar complaining tone, blue appearance of the skin, convulsions from toes upwards, colic, supression of urine; also, in that disease the irregularities in the succession of the symptoms was striking. Dr. Jameson found the stomach often filled with a green bloody mass. The bowels, when empty of solid matter, contained much gas—inflammatory appearances were sometimes observable in the bowels, but frequently these were not found. The spleen was large and frangible. Dr. Jameson looked upon the stomach as the first affected part of the incipient disease, and attributed most of the symptoms to impeded circulation. Sudden changes of the temperature were only

predisposing causes; East wind and dampness generally prevailed. The course of the cholera was from East to West; it easily followed the direction of rivers: it stopped on the coast of the Ganges and Buramputer; but population itself follows the course of rivers, villages being there thickly crowded together. Changes from heat to cold, damp evaporation, putrefaction of plants, were there noticed as principal causes of the disease. The higher classes in Bengal suffered less, also, than the lower. Afterwards the disease pursued its course across the chain of mountains between Nypaul and Tirhoot; however, there never were clear evidences that it propagated itself from body to body, neither did the people there regard it as contagious. The epidemic arose in several places at the same time, even where there was not the slightest trace of any communication, and disappeared where it raged spontaneously, undergoing a regular rise and fall. Nurses and physicians were not more affected than other people, often only a single member of a family took the disease. Lax constitutions and ill-nourished individuals took the disease most easily; filthiness promoted more than any-thing the violence of the poison. Exercise, moderate work and cheerful mind were the best preventives. Fifty out of a hundred died where no medical advice was ob-

tained—fewer where the patient had the benefit of medical aid. Men were more numerously attacked than children. Cattle, horses, dogs, were also visited with symptoms of cholera; the lower class of animals were exempt. Blood-letting, calomel and opium, constituted the chief remedies. The thick blood was with difficulty made to flow; the warm bath possessed only palliative effects. Dr. Jameson gave 40 grains of calomel, after which the patient was not allowed to take fluids. Ammonia, æther, camphor, turpentine, and aro matics, were useful, as also friction with warm oil. The spasmodic and collapsed state of the vessels made bleeding often impossible. Saltpetre in water was given as an ordinary beverage. From Professor Ruthka in Dorpat, we have to expect a peculiar and distinguished treatment of cholera; not less were the physicians at Riga distinguished by talent and education; and it is to be hoped, that the result of their ample experience will shortly be made known to the public.

TREATMENT.

We have seen the attacked organs to wit: the lungs, skin, brain, arteries, muscles, in a state of pasmodic oppression—violent contest of powers

against power appeared as the primary cause of the entire revolution. In the veins there prevails a normal principle, producing carbonic acid, and since the venous blood receives its fluidity from the dissolution of what is organic, it accumulates within itself the primary matter of the elements of the system. As, however, the venous blood abnormally preponderates, this product is carried into the arteries. Hence the blood in the left ventricle, as far as the aorta, is found charged with carbon; hence also arises the overfilling of the venous system, and its receptacles, the liver and spleen. The predominance of the secreting process of the bowels influences other organs secondarily. The perspiration of the skin is impeded, and urine is suppressed, in consequence of the occurrence of diarrhœa. The same circumstance is observable in children, who are weaned too soon. The congestions and spasms are produced by the presence of extraneous matter in the blood, which is the result of an inability of the organs of assimilation to perform their functions.

Instead of fumigation of chlorine, I used oleum lithouthracis crudum. Coals seem to possess disinfecting qualities. The exemption of London from epidemic fevers, speaks in favour of the preventive tendency of the smoke of coals. In manu-

factories, which are crowded with workmen in confined spaces, where exhalations are constantly going on, and where dampness is observed, putrid diseases often occur; but I found these diseases prevented or banished in those buildings, when they were besmeared both inside and outside with coal tar, for the purpose of drying and of preserving wood. It is a fact more generally known, that epidemic diseases seldom occur in the neighbourhood of mineral, carbonic acid, and sulphurous springs. Even the resinous fumigations which are used in some churches for the purpose of preventing demoniacal influence, owe their origin to precautionary measures of preserving health. Coal tar is very prolific in emitting odorous particles: a few ounces spread in a basin, or upon a wall, fill a good sized room for several days. It offers also an infallible means of drying damp places in the walls of rooms. Coal tar operates by no means injuriously upon the lungs, neither is it productive of any other ill effect. Chlorine operates very disadvantageously upon the skin, lungs, eyes, and the whole frame, especially when it is employed, as hitherto, prophilactically and abundantly. When coal tar is used for fumigating letters, furniture, articles of merchandise, &c. it is necessary to excite the vapours of it more powerfully by heat.

Remedies which are marked by acrid properties are often very serviceable. It is in the selection of such remedies that I agree with Harnemaun's method of cure, which prescribes the more violent narcotics and minerals. In the use of them also the small dose will operate sufficiently, and it is even preferable. Medicines, which have a volatile tendency, have no permanent effect, and they are either soon repelled or rendered subservient to the power of the disease. Large doses of them also are seldom recommended, and are only to be taken once. They may be given in order to effect a violent shock, or a severe contrast, when these seem to be indicated. Excessively small or extraordinarily large doses elude our calculation, whilst that which is more moderate adapts itself equally to the organization and to the power of the disease, without producing repulsion. Internally I recommend 4 to 6 grains of the liver of sulphur, dissolved in lukewarm water, to be taken immediately. In urgent cases the dose may be repeated every quarter of an hour; or a drop of hydrosulphuretum ammoniæ may be given in lukewarm water at the same intervals of time. The liver of sulphur may, at the same time, be administered by injection, or snuffed into the nose, for the purpose of producing sneezing and allaying spasms.—Lastly, the whole body is to be washed in sulphur water, the skin being at the same time

and for a more continued period rubbed with flannel. The patient then being covered with blankets, will soon experience an alleviation of the violent pain, and beneficial perspiration will be produced. Even in cases of common or violent colic, I have effected instantaneous alleviation of pain, by administering the above remedy. Sulphur and pot ash, although distinct and different substances, still are related to each other in their properties, and often prove useful remedies in their combined state. In obstinate cases, where there is violent contraction in the abdomen, I recommend the use of a lukewarm pediluvium, and cold water to the abdomen. Bleeding may occasionally be had recourse to with propriety, but as it produces a morbid excitement of the ganglion system, and draws too much upon the circulating fluid, it will be found frequently to produce spasms and exhaustion. Opiates relieve the spasms by their effects upon the nerves, but they produce too violent an influence upon the brain and muscles. Camphor I deem preferable to opiates. Calomel is a somewhat doubtful remedy. In the moderate dose of a grain given only once, it may perhaps operate against the morbid plastic tendency of blood. In large doses, calomel only produces violent re-action. The elasticity of the lungs may be restored at first, perhaps by inhaling coal tar,

or liver of sulphur. In the milder attacks of cholera and in dysentery, such as now occur at Mitau, a dose of soap water, with 20 to 30 drops of tinct. cascarilla, and one drop of tinct. opii, will produce a beneficial effect. After these remedies have been had recourse to, proceed gradually to the aromatic tonics as soon as the first pressing symptoms subside. Yet repeat the exhibition of liver of sulphur with every relapse, and discontinue its use with every return of relief, for in circumstances so urgent, nature endures no violence, not even by means of proper and good remedies. The tonic medicines which should be given, are cascarilla, raphania, quinine, chlorine, and mineral acids. The solutio chlorini I should administer in strength of only 1 or 2 drams, to 6 ounces of distilled water—a table spoonful to be taken every three or four hours for a dose. In desperate cases prussic acid may be a saving remedy. I also recommend slight rocking.

Just as I am penning the last line of this treatise, I received a mode of treatment adopted by Dr. Leo. He gives the magisterium bismuthi; 3 or 4 grains every two hours, until return of warmth in the extremities and secretion of urine occur. In phlethoric habits, 5 or 6 ounces of blood are taken from the patient, leeches are

applied to the stomach, rags steeped in warm spirit and pepper, and spread all over the abdomen. Mustard plasters, and moderately warm covering serve in restoring the action of the skin and animal heat. In cases where a bilious complication is suspected, a few grains of roasted rhubarb may be added to the bismuth. Dr. Leo assures us, that he has cured most of his patients.

Animadversiones anatomico—pathologicæ de cholera morbo Mosquæ grassantet quas consilio medicorum Mosquensium, qua par est humanitate offerunt Dr. Jänichen et Marcus.

CASE 1.

Stephen A. peasant, aged 40, was taken ill on the 24th of October, at 4 p. m.—possessed by no means a strong constitution. The first symptoms of which he complained were excessive vomiting and diarrhœa, anxiety, sensation of weight in the epigastrium, head-ache and spasm of the feet and arms. After the lapse of an hour he was visited by a physician who prescribed laud. liq. anod. liq. warm fluids, and friction of the whole body with turpentine oil and camphor spirit, and ordered him to be removed to the cholera hospital.

On his arrival at the hospital, the following symptoms presented themselves, to wit, great debility, head-ache, general indisposition, less vomiting, costiveness, pulse almost extinct, anxiety in the præcordia, difficult breathing, tongue furred with white sordes, spasm in the extremities, and pain on the left side. The patient was now ordered into a vapour bath, friction was used, leeches were placed on those parts which were painful, and pepperm int water and opium were given every half hour. On the 25th, at one o'clock p. m., the patient died ; the symptoms which immediately preceded death, being total cessation of pulsation, dimness in the eyes, consciousness destroyed, and great anxiety.

The post mortem examination took place on the 27th, at eleven a. m., when the following appearances presented themselves :—The muscles which were cut, in order to examine the spinal column, were filled with venous blood. Immediately under the skull, and near the longitudinal sinus, all the blood vessels of the dura mater were filled with venous blood. Adhesions of the dura mater to the arachnoid membrane were observed, also small granular bodies resembling those of pineal gland ; between arachnoid membrane and pia mater, a deposition of white lymph was remarked, parti-

cularly in those parts where there were adhesions. The arachnoid membrane was not transparent in some parts. The brain itself, in point of consistency and colour, was natural, except that several black spots were observed, and the charoid plexus was darker than usual, and filled with much venous blood. Nothing remarkable was observed in the dura mater of the spinal marrow, the pia mater was filled with blood, particularly at the commencement of the cauda equina, the arachnoid appeared to adhere to the dura mater, by means of black streaks of blood and small branches of blood vessels which were overfilled with blood. The collapsed lungs which adhered to the parieties of the thorax, and even to the diaphragm, exhibited, externally, a blue red, and, internally, a purple colour; they were filled with much frothy blood which was thicker than usual, and attended every-where with a crepitating noise when removed by the hand. Venous blood and polypi were found in both ventricles of the heart; those in the right ventricle were larger than those in the left; both in many places joined each other, were of a white colour and not unlike a fibrous mass of fat, two lines thick, covered with red and black spots. The pericardium, spleen and liver were healthy. The gall bladder was very much distended with black green bile. The stomach

and small intestines were distended with air, the arch of the colon inclined downwards. Externally there was no trace of inflammation, except that the ilium was rather redder than usual. In the stomach there appeared a green, in the small intestines a grey red, and in the colon a grey coloured mucus. The inner membrane of the stomach had a blue aspect. The cardiac and pyloric portions were every-where dotted with red spots. The duodenum and jejunum were natural, but the ilium was covered with red or flesh coloured spots, and its vessels were much distended. In the colon and rectum the mucus membrane was softened and covered with brown red spots. The descending aorta and vena cava were filled with venous blood, but there was no alteration in the structure of the vessels. A large quantity of venous blood was expressed from the arteries of the kidneys; they themselves were healthy although filled with blood. The bladder of urine was contracted, and contained ʒiii of urine—its inner membrane was pale and wrinkled. A slight redness was observed in the triangular space.

CASE 2.

Natalia Ewanowna, married, aged 55, was taken ill on the 25th of October, at four, p. m. The

first symptoms were vomiting, frequent watery stools, tinnitus aurium, spasm of the extremities. After these had continued two hours, the physician arrived, who prescribed Hoffman's drops, with opium, and the use of friction. He then sent her to the hospital, where the following symptoms presented themselves:—great weakness, headache, anxiety, general indisposition, continued vomiting, frequent stools, scarcely any pulse, difficulty of breathing, spasms of the feet and arms, moist tongue, covered with sardes. She took inf. valer. c. pot. river. et lig. c. c. succ. alternately every half hour, with 30 drops of sulphuric æther; she was then put into a vapour bath, and frictions, with spirituous fluids, were resorted to. On the 26th, no pulse, hollow eyes, which were half open during sleep, cold tongue. She died at eight o'clock, p. m.

The body was opened and examined on the 28th, at eleven, a. m. The body was meagre, the muscles stiff, the features sharp, the eyes open and sunken, the white of the eye not coloured; there were traces of irritation of skin, congestion of blood in the back, and those muscles which were cut, were filled with blood. Upon opening the spinal column, there appeared a small quantity of white matter lining the parieties of the spinal

marrow, from the 3d to the 9th vertebræ. The vesselsof the dura mater were filled with blood. There appeared upon the dura mater of the spinal column, from the last dorsal, to the second lumbar vertebræ, a redness which could not be washed off. The vessels of the pia mater were distended with blood, particularly about two inches before the canda equina commences, in the membrane; there were also depositions of lymph, as far as 7th pair of spinal nerves, on the postereai surface of the canda aquina, the vessels were distended with blood, at the origin of the 2d, 8th, 9th, and 12th spinal nerves; hemispherical cartalaginous substances of different dimensions, many of them about a line in circumference were found adhering firmly to the arachnoid. The spinal marrow itself was healthy, with the exception of a circumscribed space of the size of a bean, in the neighbourhood of 7th vertebræ of the neck, where the colour was blue, and the substance softened. The vessels of the dura mater in the brain were much distended. The arachnoid in many places,particularly in the course of its vessels was not transparent, and everywhere adhered to the dura mater. The substance of the brain was healthy, except that there appeared upon it a number of black spots; in the lateral ventricles there was a bloody fluid. The choroid plaxus was very full of blood, and appeared

very red. All the sinuses of the brain were overladen with blood. The lungs were collapsed and filled with blood; externally they were of a greyish black colour, internally black, and filled with a large quantity of frothy blood; the substance itself, however, was not hypertrophized. In the pericardium there was about ʒi. of fluid. The external aspect of the heart was natural, exeept that the caronary vessels were unusually full. Both ventricles were filled with much black, and partly thickened blood, also with fibrous white polypi, clotted with dark red spots, which did not disappear by working. The vessels of the peritoneum were filled with black blood. The liver and spleen were natural. The gall bladder was filled with black green bile. The stomach and intestines were distended with air. The whole alimentary canal was externally more or less red. The jejunum was rose coloured. The ilium was greyish red. The large intestines had rather a black appearance. The vessels of the caput cæcum coli were very full. In the colon there were bloody spots. The internal membrane of the stomach at the cardiac and pyloric portions, was here and there rose-coloured and corrugated. In the jejunum nothing was observed, except that the valvulæ conniventes were in different places very vasculur. The whole external surface of the

small intestines assumed a red colour, which near the caput cæcum became grey blue (urdoisée.) The caput cæcum was rather black. The colon was covered with black spots, resembling melænotic depositions. The same appearances were observed in the rectum. The glands of the stomach were natural. The vena cava and aorta, were filled with black blood ; their coats were healthy. The kidneys and emulgent arteries were distended with blood. The bladder of urine was contracted, and contained small, hard substances of the circnmference of a pigeon's egg. The membranes were rather thick, and the mucus coat was corrugated. The ovaria natural. The uterus filled with blood.

CASE 3.

D. M. servant, a boy of 12 years of age, was taken ill on the 16th of October, at ten, a. m. His first symptoms were vomiting and purging of a watery fluid, the former had occurred six and the latter ten times. After the lapse of an hour he was conveyed to the hospital, when the following symptoms were observed, to wit, great weakness, anxiety, nausea, vomiting, diarrhœa, small weak pulse, tongue furred with white sordes. He

was ordered to take inf. valer. pot. riv. tinct. Moschi et ambr. extract ratan. every hour; a vapour bath and spirituous frictions were used, and a mustard plaster was placed upon the abdomen. As the diarrhœa continued, we gave æther. sulph. laud. liq. a qua menth. pp. every hour. On the 17th the symptoms were the same, and the medicines continued. On the 18th, vomiting and diarrhœa less violent; he took infus. valer. and pot. Riv. On the 19th, violent vomiting again took place, emplast. lyttæ was placed upon the epigastrium. During the four following days he continued in the same condition. On the 24th the following symptoms were present: violent head-ache, red and hollow eyes, scarcely perceptible pulse, tongue yellow and covered with sordes, great thirst and low dilirium. A grain of camphor with sugar was ordered to be taken every half hour, acids were given to drink, a plaster was placed upon the nape of the neck, leeches were applied to the temples, mustard plasters were placed upon the calf of the legs and thighs, and cold was applied to the head. On the 25th the symptoms were coldness of extremities and great anxiety. On the 26th, the eleventh day of the disease, the symptoms were, no pulse, cold extremities, hollow, red, half closed eyes, dilirium, lethargy, and at seven o'clock, a. m., he died.

The post mortem examination took place at eleven, a. m. The body was emaciated, the muscles stiff, the features sunken, eyes open, the white of the eye was not inflamed. Effusion of blood was observed upon the periosteum of the spinal column, and in some places the membrane was softened, separated from the bone, and distended with bloody serum, particularly at the five first dorsal vertebræ and os sacrum. The dura mater presented no morbid appearance, except a slight redness. Upon making an incision near the second vertebra of the neck, there escaped about two ounces of bloody serum. The arachnoid was less transparent than natural, and could easily be inflated, and when this was done it appeared attached to the pia mater by small vessels. The dura mater of the brain was healthy externally. When it was cut there flowed out a great quantity of watery fluid, and spots were here and there dispersed upon it, and it adhered to the arachnoid. The arachnoid was not transparent. The vessels of the pia mater were distended with blood. In the lateral ventricles there was some fluid, in other respects the brain was healthy. The lungs were collapsed. Externally they assumed a blue red colour. Internally they were purple, and filled with frothy blood. The left ventricle of the heart was filled with venous blood. The right

ventricle contained a white fibrous mass, intermingled with reddish black spots, which adhered firmly to the columnæ carniæ. The spleen and liver were healthy. The gall bladder was transparent, and not unlike a dried bladder. The stomach was in a state of collapse. The bowels were distended with air, and externally appeared of a natural colour, except at the arch of the colon, which was preternaturally red. The inner surface of the bowels, and particularly that of the colon, was covered with green mucus, and presented, in some places, brown spots, but there was no alteration in the coats themselves. In the ilium white red spots were observed. In the stomach, particularly at the cardiac portion, these red spots were also seen. The bladder thin, and filled with clear urine. The kidneys natural. The emulgent arteries were filled with blood.

CASE 4.

Agaphia, P. 26 years old, of feeble habit of body, was taken ill on the 23d of October, at eight p. m. The symptoms which first presented themselves were diarrhœa, vomiting, head-ache, anxiety, sensation of weight in the breast. On the 24th, the physician prescribed laud. liq. and

sulphuric æther, with tepid dilnents, and caused her to be removed into the hospital, where she had the following symptoms:—dizziness, head-ache, anxiety in the præcordia, violent diarrhœa, nausea, and vomiting; scarcely any pulse; cold, clean tongue. Her countenance was pale, and her eyes hollow.—Prescribed æther. sulph. laud. liq. in water, to be taken every half hour alternately, with a mixture, consisting of pot. riv. and aq. menth. pp. comp. a vapour bath, and friction. On the 25th, on the whole better, but complained of violent head-ache. A powder was now ordered, compsoed of nitr. gum. arab. gr. x. calom. gr. i. to be taken every hour, leeches were applied to the right hypochrondrium, and mustard plasters to the calf of the legs and thigh. On the 26th, the symptoms were drowsiness, insensibility, pulse scarcely perceptible, tongue whitish yellow, the body cold. No more medicine was ordered. On the 27tb she died The body was opened on the 29th October, at eleven, a. m.

The muscles of the whole body were stiff, and those of the back assumed a red black colour. The periosteum of the spine was in many places softened, and distended with blood. The dura mater in its whole extent both internally and externally, was very red, and adhered in many

places to the arachnoid The latter membrane was not transparent, and could easily be separated from the pia mater. Upon making an incision into the dura mater, there flowed out about ʒi. of bloody serum. The substance of the spinal marrow was healthy. The dura mater of the brain was healthy, but it adhered in many places to the opake arachnoid. The brain itself was natural. The lungs were not collapsed Externally they exhibited a blueish red, internally, a purple colour. They were filled with much frothy crepitating blood. The left lung adhered to the pericardium and plura costalis. Depositions of fat were observed upon the heart. In the pericardium there were found about ʒii. of fluid. The left ventricles were filled with venous blood, and a fibrous substance which attached itself to the columnæ carniæ. The semilunar valve and inner membrane of the aorta were very vascular. The same appearances were remarked in the valves of the right ventricle, and the inner membrane of the pulmonary arteries. The mucus membranes of the œsophagus, and cardiac portion of the stomach were very vascular. The omentum and liver were healthy; the latter contained a very small quantity of blood. The bowels were distended with air. The spleen small and filled with blood. The inner membrane of the stomach was covered

with a greenish mucus, which adhered firmly. The duodenum and jejunum natural. The mucus membrane of the ilium in many places was very vascular, this vascularity vanished near the valve of the caput. cæcum coli. There were a few red spots distributed upon the large intestines. The bladder of urine was contracted to the size of a hazel nut, or almond. The kidneys healthy, but filled with an unusual quantity of blood.

CASE 5.

Natalia T., aged 40, married, was brought to the hospital, on the 26th of October, at eight, a. m., having the following symptoms; very great weakness, violent vomiting, spasm in the extremities, dizziness, head-ache, anxiety, pain in the epigastrium. Prescribed pot. riv. aq. menth. pp. ā ā, a table spoonful every hour, and forty drops of laudnum three times a day. Acid vapours, mustard plasters to the abdomen and calf of legs, and spirituous frictions were also used. On the 27th the vomiting was less violent, pulse smaller and weaker, facies hypocratica insensibility, and at eight, p. m., she died.

The post mortem examination took place on

the 29th, at one, p. m. The body appeared meagre, the inferior extremities only were stiff. The periostium appeared softened at the first false vertebra of the sacrum. The dura mater of the spinal marrow was rather black, and filled inferiorly with fluid. In several places it was found to adhere to the arachnoid. The spinal marrow was softened in three places, between the origin of thefirst and tenth pair of spinal nerves. The vessels of the dura mater of the brain were much distended, and contained venous blood. The vessel of the pia mater had a blueish black appearance The brain was healthy. The lungs were not collapsed. Externally they were of a blueish red colour, and interspersed with numerous black spots. Internally they were ofa purple colour, and crepitated when pressed. The right lung adhered to pleura. The heart was filled with venous blood. The external surface of the left ventricle was blue, having depositions of venous blood upon it. The internal surface was healthy. The valves and internal membrane of the aorta were also healthy. In both ventricles there was a small fibrous substance, which appeared to be separated from the coagulum; that in the right ventricle was the larger of the two, it had a white appearance, and adhering to the columnæ carniæ, extended itself behind the tricuspid valve into

the auricle. The liver was natural. The gall bladder was distended with much black green bile. The stomach and intestines were inflated with gas. The internal surface of the stomach was covered with green mucus. The cardiac portion of the stomach was very vascular. The duodenum and jejunum were healthy. The mucus coat of the ilium was in several places rather red. The arch of the colon, the descending colon and the sigmoid flexure exhibited a black aspect; the mucus membrane however was natural. The aorta was filled with venous blood. The kidneys were healthy. The emulgent arteries contained much venous blood. The bladder of urine was contracted, and contained no urine. Its inner coat was corrugated. The ovaria filled with venus blood The uterus and spleen were healthy.

CASE 6.

Odotia R. soldier's wife, aged 45, was taken ill on the 22d of October, in the evening. Her first symptoms were diarrhœa, vomiting, dizziness, anxiety, pain in the epigastrium, coldness of the extremities.—Prescribed laud. and Hoffman's drops, with warm diluents. On the 23d, she was removed to the hospital, where the following

symptoms were present:—dizziness, anxiety in the præcordia, pain in the epigastrium, diarrhœa not so urgent, vomiting less frequent, pulse scarcely perceptible, breathing easy, tongue white, countenance pale, the eyes hollow, and filled with tears, the vital power greatly exhausted.—Prescribed æther. sulph. laud. liq. ā ā ʒii. 20 drops to be taken every hour alternately, with a table spoonful of inf. valer. ʒvi. pot. riv. ʒiii. anod. Hoffm. ʒii. at same time the vapour bath and frictions were to be used. On the 24th, the vomiting and diarrhœa ceased, the pulse became quick and small, the tongue dry and furred, head-ache.—Prescribed decoct. althœa. ʒviii. liq. s. s. succ. ʒi. a table spoonful to be taken every hour, cold envelopes were applied to the head. On the 25th, the tongue red, pain in the abdomen.—Prescribed barley water, with the juice of oxycoccus, mustard plasters to the calf of legs, demulcent poultices to the abdomen. On the 26th, sleepiness, low delirrhium; countenance red, eyes and tongue also red, pulse more frequent and harder.—Prescribed decoct. alth. libr. un. nitr. ʒii.; leeches were applied to the temples and behind the ears. On the 27th, the patient was insensible, and did not answer questions which were asked her.—Prescribed decoct. hard. libr. un. elix. acid. hall. ʒii. as common beverage, and pulv. ex. camph. gr. i. moschi. gr. ii. oleosaceh, cajeput. gr. xx. to be

taken every hour and mustard plasters were applied to the arms; the medicine was rejected. The hair was ordered to be shaven, and emplast. lyttæ. was applied to the crown of the head. On the 28th, the patient in the same state as on the day preceeding; mustard plasters were now ordered to be applied to the legs and soals of the feet. On the 29th, sensibility and consciousness were extinct, she died.

The post mortem examination took place on the the 31st. at eleven. a. m. The body was very meagre, all the muscles were stiff, those of the back were filled with blood. The countenance was sunken, the eyes open. The dura mater of the spinal marrow in many places vascular, and filled with serum, which upon an incision being made, flowed out in the quantity of an ounce. The vessel of the pia mater at the beginning of the cauda equina much distended. The arachnoid could easily be separated at the cauda equina, it was considerably thickened, a cartilaginous body was found upon its whole extent, adhering firmly to it, and having the magnitude of a mustard seed or rather larger. The substance of the spinal marrow was natural. The dura mater of the brain was healthy, its vessels however were morbidly distended with blood. The arachnoid of the brain was in many parts opake, and covered with white

depositions of lymph. The vessels of the ventricles and plexus were filled with venous blood, in quantity of about ℥i. The cerebrum and cerebellum were healthy. The right lung adhered to the pleura, and contained a small quantity of frothy blood. The left lung adhered also in some places to the pleura costalis, its internal structure exhibited a blueish red aspect. The left ventricle of the heart contained ℥ss. of fluid venous blood, and a fibrous vermiform substance, which adhered to the columna carniæ, and mitral valve extending itself by branches into the left auricle, and even to the aorta. In the right ventricle similar appearances were observed in it, this substance filled the whole ventricle, and extended itself into the auricle and pulmonary arteries. The substance externally appeared black, internally, however, it presented a white aspect. The omentum and liver were healthy. The gall bladder was very large and distended, with black green bile. The intestines were distended with gas. The stomach externally appeared white and contracted to the diameter of the duodenum. The coats of the stomach were thickened, and covered with a whitish green mucus. The cardiac portion of the stomach was vascular. The pyloric portion was grey and corrugated. The whole alimentary canal was in other respects healthy. The descend-

ing aorta and ascending vena cana, were filled with fluid venous blood. The kidneys were very large. The spleen was healthy. The bladder of urine was contracted, the coats were thick, and the mucus membrane was corrugated. Uterus and ovaria natural.

CASE 7.

Athanius J. peasant, æt. 58, strong, was taken ill on the 28th of October, in the middle of the night. The first symptoms were violent vomiting and purging of watery fluid, the latter had occurred twenty times, anxiety, weight in the breast, pain in the epigastrium, and spasm of the extremities, pulse scarcely perceptible, difficult breathing, tongue covered with white sordes, skin cold. Prescribed æther. sulph. laud. liq. ā ā ʒii, of which twenty drops to be taken every half hour alternately, with a table spoonful of inf. valer. ℥vii. pot. riv. ℥iiss anod. Hoffm. ʒiss vapour bath, and spirituous friction. On the 24th, at four a. m., he died. The body was opened on the 30th, at one p. m. The appearances after death were—the body powerful and muscular. The extremities, particularly the inferior, very stiff. The dura mater of the spinal marrow very loose. Upon

incision ʒss of bloody serum escaped—it was found in many places to adhere to the arachnoid. The vessels of the pia mater contained much venous blood. The dura mater of the brain was natural. The vessels of the brain were much filled with blood. The arachnoid in many places was opake. In the brain, near the lateral sinuses, numerous black spots were observed. The vessels of the ventricles of the brain were swollen, and the plexuses filled with blood. The right lung adhered in its entire surface to the pleura, and was blueish red, having black spots upon it. It was not collapsed. Internally the lung was purple, also having black spots. The same appearances were observed in the left lung. The pericardium on its inner surface was vascular. The coronary vessels of the heart were filled with blood. Black spots were observed on the external surface of the left ventricle, which was hypertrophized but not distended. In the left ventricle there was a great deal of black fluid blood. The same was observed in the left auricle, but coagulated. The semilunar valves of the aorta were very vascular. A fibrous substance was found to adhere firmly to the columnæ carniæ and mitral valve. The right auricle was much distended and filled with venous blood. In the right ventricle a fibrous substance was formed, apparently from coagulated blood,

which every-where was closely attached to the membrane, and extended itself into the auricle and pulmonary arteries. The internal surface of the auricle and valves was vascular. The right lobe of the liver was larger than natural; in other respects the liver was healthy. The gall bladder was distended with black green bile and very large, the ducts were not obstructed. The stomach, with the exception of a slight ecchymosis in the smaller curvature was natural. The small intestines were healthy. In the mucus membrane of the colon there were appearances of inflammation. In the arch and descending colon general redness with red black spots, but no lesion of substance. The descending aorta was filled in its whole extent with an immense quantity of thick blood, resembling ink. Kidneys, pancreas, and spleen were healthy. The bladder of urine was contracted.

CASE 8.

R. D. servant, 45 years old, of weak habit of body, was taken ill on the 27th of October, at seven, p. m. His first symptoms were vomiting of watery fluid, watery stools; the former occurred five times, the latter ten times, dizziness, anxiety in the præcordia, sensation of weight in

the epigastrium, weak pulse, and spasm of the extremities. On the 28th, at five o'clock, a. m. the physician prescribed thirty five drops of laudanum, with twenty drops of sulphuric æther, and caused the patient to be removed to the hospital, where the following symptoms presented themselves, to wit, head-ache, very great exhaustion of power, anxiety, general indisposition, violent vomiting, and diarrhœa, spasm of extremities, scarcely perceptible pulse, breathing rather difficult, tongue moist and covered with sordes, a hoarse voice, pale countenance, and cold skin. Prescribed sulphuric æther and laudanum, each twenty drops, every half hour, vapour bath, and spirituous friction. On the 29th, facies hippocratica, no pulse, eyes dull, and at four p. m., his sufferings were terminated by death; the body was opened and examined on the 30th, at three p. m. External appearance meagre, blue coloured extremities, stiffness of the lower but not of the upper extremities. In the canal of the spinal column the external appearances were natural. Posteriorly the dura mater adhered to the opake arachnoid. The vessels of the pia mater were a good deal distended. The substance of the spinal marrow, at the sixth and seventh vertebra of the back was softened. The vessels of the dura mater of the brain were distended with blood. The

sinuses swollen with much leaden coloured blue blood. The arachnoid in most places was not transparent. There were numerous black spots in the substance of the brain. The plexuses had a black red colour and the lateral ventricles were filled with a bloody fluid. In other respects the brain was natural. The inner surface of the trachea and fauces was healthy The lungs adhered externally, they were of a blueish red colour, having here and there black spots. Internally they were purple and filled with venous frothy blood. Upon the external surface of the heart posteriorly, there were found venous blood and a fibrous substance formed from coagulated blood, which adhered to the columnæ carniæ, and extended into the auricle and pulmonary arteries. All the bowels were distended by air. The stomach was contracted in circumference to the size of a small intestine. The internal membrane was here and there marked with red spots. The jejunum was healthy. The mucus membrane of the ilium was vascular. Red spots were observed in the vermiform process of the caput cœcum. coli. The mucus membrane of the descending colon, particularly in the middle, was very vascular. The descending aorta was filled with much venous blood. The spleen and pancreas were healthy. The right lobe of the liver was larger than

natural, its substance, however, appeared healthy. The gall bladder was very large and filled with black green bile. The kidneys were full of blood. The bladder of urine was contracted to the size of a pigeon's egg, its coats were thickened, and the lining mucous membrane was corrugated and white.

CASE 9.

Natalia S. unmarried, aged 17, of a weak habit of body, and by her own report, subject to disease from her infancy, came herself on the 26th of October, at threee p. m., into the hospital, labouring under the following symptoms, head-ache, violent diarrhœa, anxiety, general indisposition, frequent vomiting, small weak pulse, difficulty of breathing, moist though rather clean tongue, pale countenance, hollow eyes, cold skin, want of appetite, great thirst, and suppression of urine. Prescribed æther. sulph. laud. liq. ʒss, of which twenty drops were taken every half hour, alternately, with a table spoonful of dec. salap. ℥vi pot. riv. ℥ii aq. menth. pp. ℥iss liq. s. s. succ. ʒiss, vapour bath, spirituous friction and clyster of starch and and dec. ratan. On the 27th diarrhœa, general indisposition, less frequent vomiting, anxious breath-

ing, weak pulse, great thirst, and suppressed perspiration. Prescribed pot. riv. ʒiii, liq. anod. anod. Hoffm. ʒss, a table spoonful every hour, mustard plasters were applied to the epigastrium and inferior extremities. On the 28th diarrhœa, nausea, and vomiting no longer present, but the symptoms were great anxiety, insensibility, facies hypocratica, and immobility of the body. No medicine was taken, the pulse became extinct, the extremities cold, and death took place on the 30th, at two p. m. The body was opened on the 31st, at eleven a. m., when the following appearances presented themselves:—The dnra mater of the spinal marrow at the canda aquina was distended with fluid of which when an incision was made ʒs escaped The vessels of the pia mater were distended with blood. The inner surface of the dura mater was very vascular. The arachnoid, particularly at the canda equina was opake, and the spinal marrow itself, in this part was softened to the extent of half an inch posteriorly. Anteriorly it seemed healthy. The vessels of the dura mater of the brain were filled with blood. The arachnoid appeared in many places opake. The vessels of the pia mater were distended. The brain itself was healthy, except that there were many red spots upon its surface and some fluid in the lateral ventricles. The cerebellum was also healthy.

The lungs were not collapsed; externally they appeared blue, internally of a purple colour, having black spots and filled with frothy crepitating blood. The under lobe of the right lobe was hypertrophised. The left ventricle of the heart contained venous blood and a fibrous white substance, which was covered with coagulated blood, and adhered to the columnæ carniæ and mitral valve so as considerably to obstruct the passage of blood. The same appearances were observed in the right ventricle. The whole alimentary canal was distended with gas, particularly the large intestines. The vessels of the ilium were considerably increased in size. The liver was healthy, but replete with blood. The gall bladder was filled with black green bile. The internal membrane of the descending aorta was vascular. The spleen was of its usual size, having externally a black blue, and internally a brown colour. Its consistence was morbidly soft. The kidneys and the pancreas were healthy, yet filled with an unusual quantity of blood. The bladder of urine was natural. The uterus was healthy. The right ovarium was indurated and of the size of a new egg. The left ovarium contained hydatids.

Central Board of Health, Council Office, Whitehall, 13th Dec. 1831.

SIR,—Agreeably to the intimation given by this board in the concluding paragraph of their circular, dated 14th ult. I have the honor to transmit the subjoined "Sanitory Instructions for communities supposed to be actually attacked by Spasmodic Cholera," with some observations on the nature and treatment of the disease, drawn up by Drs. Russell and Barry.

Every individual being deeply interested in the preservation of the public health, it is the bounden duty of all to endeavour to arrest the spread of the disease at its very commencement. In order to attain this important object—

1st. The most efficient arrangements should be made by the local boards of health, and other authorities, to obtain the earliest, and most correct intelligence of every suspicious case which may occur within their jurisdiction,

2d. All unnecessary communications should be prevented, as far as possible, between the infected and the healthy.

3d. As space, cleanliness, and pure air are of the most vital consequence, both to the recovery of the sick person and to the safety of those about him, the patient labouring under Spasmodic Cholera should either be placed in a separate, well-ventilated apartment of his

own house, if it afford such accommodation, and be attended by as few persons as the circumstances of his case will admit, or be induced to submit to an immediate removal to such building as may have been provided for the reception of persons whose circumstances will not afford the advantages at home of space, air, and separation from the healthy.

4th. When an individual shall have been attacked with this disease, and placed under the most favourable conditions, as already pointed out, both for the recovery of his own, and the safety of the public health; the room or apartment where he may have been attacked, and from which he may have been removed, should be purified by scrubbing, lime-washing, free ventilation and fumigation by heated sulphuric acid and common salt, with black oxyde of manganese, or the same acid with nitre; or, when these materials cannot be obtained by strong vinegar thrown upon heated bricks. The bed, bedding, and clothes should be immersed in water, washed with soap, and afterwards fumigated as above.

5th. To correct all offensive smells, chloride of lime may be applied; but great caution is recommended in the use of this material, its fumes continued for any length of time, having been found highly prejudicial to health, more particularly in delicate persons.

6th. A number of steady men, proportionate to the district in which they are to act, should be appointed to lime wash and purify, as ordered above, under the direction of medical authority, such apartmentsas may be pointed out by the inspectors of the local board.

7th. Those who die of the disease, should be buried as soon as possible, wrapped in cotton or lime cloth saturated with pitch, or coal tar, and be carried to the grave by the fewest possible number of persons. The funeral service to be performed in the open air.

8th. It is of the utmost importance to the public health, that improved diet, and flannel clothing. at least flannel belts and woollen stockings, should be given to the poor. No person should ever allow himself to sit down and get cool, with wet feet: indeed the most particular attention should be paid to keeping the feet dry and warm, Repletion and indigestion should be guarded against; all raw vegetables, acescent, unwholesome food and drink avoided. Temperance should be most rigidly observed in every thing. In short, no means should be neglected which may tend to preserve individual health. The neglect of any or all of those cautions would not of themselves produce the specific disease called Spasmodic Cholera; but such neglect would most assuredly dispose the individual living in an infected atmosphere to be attacked by this disease, when most probably he might otherwise have escaped.

The most effectual means by which this disease may be prevented from extending, is to enable the poor, who are generally the first attacked, to oppose to its influence, as far as practicable, those ameliorations in diet, clothing, and lodging which public, and private charity will, it is hoped, not fail to produce.

Observations on the nature and treatment of the disease, drawn up by Drs. Russell and Barry.

Of the two great classes of functions performed by the organs of which man is composed, one only is attacked in this disease. The operations of the senses and of the intelligence are either left untouched, or are affected but in a secondary manner.

Those functions, on the contrary, by which existence as a living being is preserved; those complicated powers, by means of which we are for ever appropriating and converting into a part of ourselves portions of the matter around us; are all, and at once deranged by the attack of this terrible malady. Nutrition is annihilated; respiration becomes difficult, irregular, and inefficient; the involuntary muscles no longer perform their task; the voluntary are drawn into contractions by other powers than the will; the blood ceases to circulate; its physical properties are altered; its serous portion is suddenly thrown out upon the intestinal mucous surface of the body; the secretions are all arrested; and animal heat is no longer produced.

Under such rapidly destructive, and almost universal derangement of function, the most energetic efforts should be directed to re-produce what the disease has rendered nature unable to keep up; viz.

1st. Fluidity, heat, and motion in the blood.

2d. Regulated action in the voluntary, and involuntary muscles.

Lastly. But above every other consideration, renewed energy in the nervous centre, the source of all vitality and function.

No remedy at all approaching to the nature of a specific has been as yet discovered for this disease. In fact, no one mode of cure can be usefully employed under all the circumstances of any disease. The grades of intensity, and the grouping of the symptoms with which Spasmodic Cholera makes its attacks, vary with the conditions of the subject; its treatment, therefore, must vary with these grades and conditions.

The leading preliminary symptoms generally are, either diarrhœa, spasms, apoplectic vertigo with nausea, imperfect vomiting, or various combinations of these symptoms.

When the diarrhœa affords time for distinct treatment, it ought to be arrested at once by the most prompt and efficient measures; by opium in moderate doses; astringents; local bleeding by leeches, if the subject be plethoric; by cordials and sulphate of quinine, if there be cold sweats; by confining the patient strictly to bed, and keeping up heat; by diet; by emetics.

Should spasms be the first and leading symptom, subnitrate of bismuth, cupping along the course of the spine, cordial and antispasmodic medicines, opium, frictions, and dry warmth are indicated.

But when the patient is suddenly seized with vertigo, nausea, coldness, loss of pulse, blueness of the skin, shrinking of the features and extremities, with more or less watery discharges and cramps; constituting an aggravated case of the worst type; whether this state shall have come on without warning, or shall have super-

vened upon either, or both of the preliminary sets of symptoms already mentioned, time must not be wasted upon inert measures. Such a patient will inevitably perish, and within a very few hours, if the paralysed vital functions be not quickly restored.

Let him then be immediately placed between warm blankets; and should no medical person be at hand, let two table spoons full of common kitchen salt, dissolved in six ounces of warm water, be given immediately, and at once, if he be an adult. Let dry and steady heat be applied along the course of the spine, and to the pit of the stomach (if no other means be at hand), by a succession of heated plates or platters. Let the upper and lower extremities be surrounded with bags of heated bran, corn, ashes, or sand, and assiduously rubbed with a warm hand, and a little oil or grease to protect the skin. Energetic, complete vomiting will probably be produced by the salt; and perhaps bilious purging, with tenesmus.

Should a medical man be on the spot, a moderate bleeding, if it can be obtained, would be desirable, previously to, or immediately after the administration of the salt, or of any other emetic which may be preferred.

The extensively deranged action of those organs, whose nerves are chiefly derived from, or connected with, the spinal marrow; the anatomical characters found about that great source of vitality, after death, in many cases of this disease; together with the success stated by Dr. Lange, chief physician at Cronstadt, to have attended the practice mentioned below, founded

upon these views, in twelve out of fourteen aggravated cases, fully justify the following recommendation.

In cases such as those just described, let the actual cautery be freely applied to one or two, or more places on either side of the spine, as if for the purpose of forming good-sized issues. Should the heated iron have produced any excitement of the nervous power, and the salt-emetic have caused any portion of the bile to flow through its proper duct, a great step will have been accomplished towards recovery from the stage of collapse. Cordials and opiates judiciously administered; sinapisms and other external stimulants; mercurials, with mild aromatic aperients, which the intelligence and activity of British medical practitioners will not fail to adapt to the actual circumstances of each case, will conduct the patient safely to the stage of re-action.

The organs, during the collapse of this disease, probably owing to deficient vitality, often give no indication of having been acted upon by repeated doses of certain powerful medicines, which under other circumstances would have produced the most pronounced effects. It is therefore suggested, that this temporary insensibility of the system should not inculcate the administration of such repeated quantities as could, by accumulation, when the organs begin to recover their vitality, give rise to unfavourable results.

Thirst being a most distressing symptom of this disease, the quality and the temperature of the drink should perhaps be left to the choice of the patient; but the quantity taken at a time should not exceed four

ounces, and should be acidulated with nitrous acid, if the patient will bear it.

Should the disease prove extensively, and rapidly epidemic in a large community, it would be prudent to establish stations at convenient distances from each other, where medical assistance and medicines might be procured without the risk of disappointment or delay. The details of these arrangements are left to the wisdom of local Boards of Health.

As the symptoms of the consecutive stage of feverish re-action in cholera differ but little, if at all, from those of ordinary typhus, except, perhaps, in the greater rapidity with which they but too often run to a fatal termination ; and as this kind of fever is treated in no part of the world with more success than in England, the entire management of this stage of the disease is left to the zeal and science of the profession at large.

Attentive nursing, and assiduous, well-directed rubbing, are of the utmost importance ; a strictly horizontal position, however, must be maintained until the heart shall have, partly at least, recovered its action. An erect or even semi-erect position, during the collapse, has been often observed to produce instant death. Warm baths, therefore, for this and other reasons, are worse than useless ; evaporating fluids, and indeed all moisture applied to the skin, seem to be contra-indicated for obvious reasons. Hot air baths, so contrived as to be applicable in a recumbent posture, and admitting access to the patient for the purpose of friction, may be of use.

NOTES

TO THE PRECEDING REMARKS.

Page 5. The following table from Lichtenstadt's work shews the difference of susceptibility of different ages:—

Years old.	Rec^{d}	Died.			
		Not living over one hour.	Not over 24 hours.	More than 24 hours.	Total.
From 4 to 15 ..	13	2	1	7	10
„ 15 — 25 ..	71	3	2	12	17
„ 25 — 35 ..	57	7	4	23	34
„ 35 — 45 ..	45	9	6	29	44
„ 45 — 55 ..	20	7	10	18	35
„ 55 — 65 ..	9	4	17	13	34
„ 65 — 80 ..	4	—	7	5	12
	219				186

Mist: Riverii is an effervescent draught, consisting of an alkali and lemon juice; it is also called mistura kalino-citrica.

Anod: Hoffm: is composed of one part of sulphuric æther, and three parts of alkohol. It is given in doses of 10, 20, to 60 drops, to produce the same effects as æther. It is, however, usually prescribed in those cases where æther would be considered too powerful a stimulant.

Hoffman's drops are diluted sulphuric acid.

Page 10. Who will dare to assert, that the atmosphere is not affected by the above circumstances?

" The remote cause of cholera is to be referred to a certain unknown condition of the atmosphere." See Hecker's Kunst die Krankheiten der Menschen zu heilen, page 53.

Page 13. Experience has taught us, that the roe of the barble, caviar, muscles, mushrooms, immoderate quantity of juicy or unripe fruits have, where peculiar idiosyncracy prevailed, produced cholera. See Vogel's Handbuch der practischen Arzneywissenshaft zum Gebranch fur angehende Aerzte, page 108.

Gramburgh observed, that he found cholera produced in a whole family from eating the flesh of a diseased ox. In this case the disease was cured by antiseptics.

Page 15. And it really seems improbable, that a disease like cholera, so easily produced, &c. should not have prevailed in all periods of the world. " In short," says Vogel, " every irritation which affects the stomach and bowels, idiopatically, or sympathetically, may produce evacuations similar to those which we observe in cholera."—Vogel, page 108.

Page 20. Absolutely necessary as may be the knowledge of facts towards furnishing genuine materials for reflection, still excessive reading and re-reading destroy the natural flow of thought, and substitute the mechanical operations of memory for the enlivening and fruitful energy of judgment.

The justice of this remark has been admitted by most writers of distinction, to wit—Pope, Descartes, Helvetius, Shakspeare, Bolingbroke, and many others.

" Thus in the soul, while memory prevails,
The solid power of understanding fails."

Pope.

"To make discoveries of any kind to deserve the title of inventor, or a man of genius, we must *meditate* more than *learn*."

Descartes.

"His mind over-burdened with the weight of a *learned ignorance*, can never mount up to the truth; it has lost the spring that should raise it up."

Helvetius.

"Study is like the heavens' glorious sun, that will not be deep searched with saucy looks; small have continual plodders ever won, *save base authority from other books*."

"Why universal plodding prisons up the nimble spirits in the arteries; as motion and long during action tires the sinewy vigour of the traveller."

Shakspeare.

"He *reads* too much to *think* much."

Bolingbroke.

Page 26. That chlorine is of no use as a preventive against cholera is shewn by the fact, that there are examples of persons who were continually in an atmosphere of chlorine, and who laid up a share of provisions, in order that no infected person might approach them, who yet were not only not exempt from the disease, but suffered from it in its most severe form, and died. Chlorine gas, when strong, is very injurious to the health, having, in many instances, produced nausea, syncope, dizziness, head-ache, watchfulness, apoplectic fits, and hæmatemesis.—Lichtenstadt, page 15.

"A very recent work has greatly praised preparations of antimony (Breckwenstein), for their excellent effects in cholera."—Lichtenstadt, page 7.

Page 28. Large doses of calomel have lately come into disrepute, and large doses of peppermint oil and opium are still more deprecated.—Lichtenstadt, page 7.

His own words are, " Grosse gahen von calomel sind ganz in abnahme gekommen, noch mehr aber die grossen Gaben von Pfeffermunzol und opium."

" Unter den nenempfohlnen Mitteln macht besonders der Brechweinstein Aufsehen und soll in einem ganz nenerlich angekommenen arztlichen Berichte sehr gernhmt werden."

Page 24. By care and attention to the lower classes—by strict regard to dry, airy, light abodes—by better food and cleanliness—by avoiding the crowding together of people in one room, more is gained than by quarantine, which, like all hospitals, causes the collection of many people together, and must quickly raise the atmosphere, already inclined towards a condition favourable for producing sickness, to a state which will quickly engender the disease in its most virulent form.

The accuracy of the above observation is, I think, confirmed, if not established, by the following table, whereby we observe the bad effects of want of cleanliness, small apartments, and crowding of people together, by the ravages of the cholera among the Jews, who it is well known labour under the above disadvantages :—

Table shewing the progress of Cholera in Berditschew, in government of Wolhynien.

December, 1830.	Diseased.		Recovered.		Died.		Sick before.	
	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.
On the 7th	5	4	—	—	2	1	3	3
8th	5	3	—	—	—	1	8	5
9th	1	—	—	—	1	2	8	3
10th	5	4	—	—	3	1	10	6
11th	6	1	—	—	1	3	15	4
12th	8	2	—	—	5	1	18	5
13th	2	2	—	—	6	1	14	6
14th	9	4	3	5	3	2	17	3
15th	9	3	1	—	6	1	19	5
16th	3	2	—	—	5	1	17	6
17th Christians	—	1	2	—	—	2	1	1
17th Jews	7	1	—	—	7	1	14	4
18th Christians	3	5	—	—	2	2	2	4
18th Jews	33	17	—	—	27	9	20	12
19th Christians	5	2	—	—	3	2	4	4
19th Jews	31	18	—	—	20	12	31	18
20th Christians	3	6	—	—	1	3	6	7
20th Jews	36	13	7	—	35	9	25	22
21st Christians	3	4	4	1	—	—	5	10
21st Jews	45	23	1	—	46	25	23	20
22d Christians	6	3	—	2	2	3	9	8
22d Jews	35	22	—	4	38	20	20	18
23d Christians	3	6	2	4	1	1	9	12
23d Jews	42	29	4	—	39	25	19	22
24th Christians	5	2	1	2	1	2	12	10
24th Jews	39	16	1	2	34	22	23	14
25th Christians	6	2	—	1	3	2	15	9
25th Jews	33	21	5	3	30	25	21	7
26th Christians	9	2	—	3	5	2	19	6
26th Jews	40	43	4	—	34	34	23	16
27th Christians	5	5	—	—	8	4	16	7
27th Jews	24	13	—	—	23	15	24	14
28th Christians	6	2	1	—	4	3	17	6
28th Jews	13	8	4	5	13	7	20	10
29th Christians	1	3	2	4	1	—	15	5
29th Jews	15	15	2	1	15	16	18	8
30th Christians	—	4	1	—	2	3	12	6
30th Jews	8	8	1	—	3	8	22	8
31st Christians	—	4	—	—	2	1	10	9
31st Jews	3	7	—	—	3	5	22	10
	512	330	46	34	434	277		
From 1—8th January, 1831.	30	28	17	2	31	36	14	9
	5 2	358	63	36	465	313		

ERRATA.

General Remarks, line 10, for exceptionn, read exception
for early, read nearly
Page 5, line 4, for old people less, read old people are less liable
14, line 7, for Theserpent, read The serpent
17, line 14, for these sphere, read this sphere
18, line 10, for geniune, read genuine
19, line 9, for sickhow edifinyg, read sick how edifying
20, line 21, for Dr. Jänichan's, read Dr. Jänichen's
21, line 27, for temary, read ternary
22, line 7, for poliphi, read polypi
25, line 25, for pasmodic, read spasmodic
for powers, read power
29, line 26, for tendency of blood, read tendency of the blood
31, line 10, for grassantet, read grassante
32, line 10, for pepperm int, read peppermint
33, line 5, for charoid, read choroid
35, line 11, for sardes, read sordes
36, line 1, for vertebræ, read vertebra
8, after membrane, dele semicolon
10, for postereai, read posterior
19, for vertebræ, read vertebra
28, for plaxus, read plexus
37, line 8, for exeept, read except
13, for working read washing
47, lines 21-22, for di-lirrhium, read delirium
48, line 5, for preceed-ing, read preceding
7, for soals, read soles
12, for muscles, read muscles
55, line 12, for threee, read three
56, line 13, for dnra mater, read dura mater
59, line 30, for apartmentsas, read apartments as
60, line 21, for dsease, read disease.